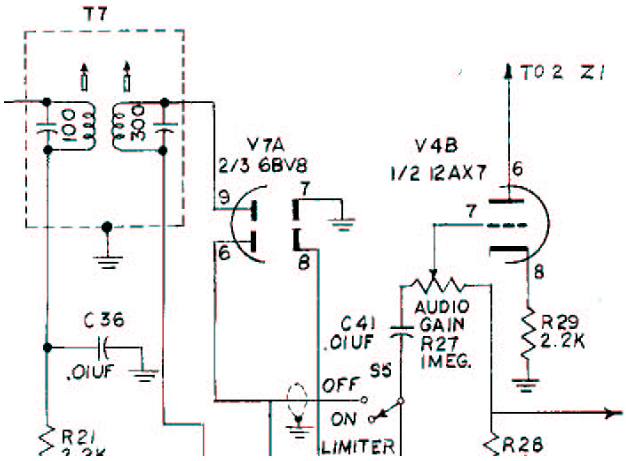
Model Number: Hammarlund HQ-100A Serial Number: 24721091
By: Virgil Cheng, vr2xgm


**Date: 29-Aug-2010 Alignment**

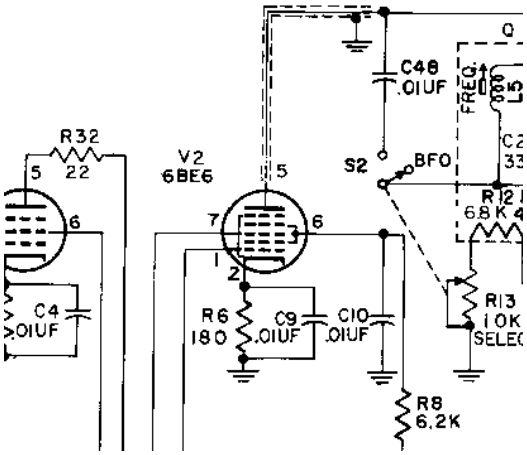
**IF Alignment, manual page 11 (procedure), page 10 diagram adjuster location**

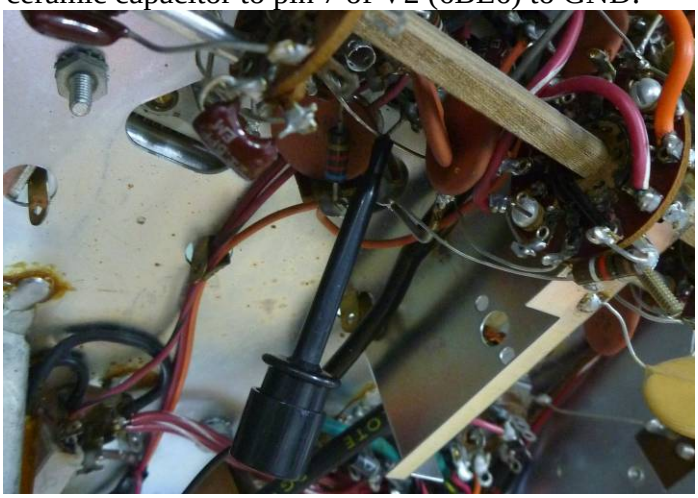
**Instruments:**

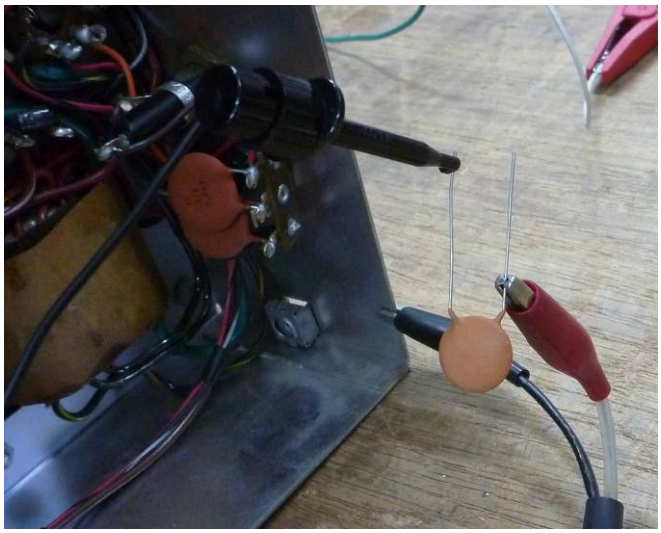
- Connect DVM, volt range, to pin 6 of V7A (6BV8, HQ-100A is different from HQ-100, HQ-100 uses 6AL6 as detector diode) and GND




- Connect signal generator via a 10nF 1KV ceramic capacitor to pin 7 of V2 (6BE6) to GND.





- Signal generator terminated with 50Ohm load.
- Signal generator level set to 100uV, frequency 455KHz, carrier only.

**UUT setting**

- band spread to 100 (not long vertical line, they are different)
- Function switch REC (normal receive)
- Main tuning dial 0.54MHz
- Noise limiter switch OFF
- Audio gain at minimum
- SELECTIVITY control to OFF (full counter clockwise)
- AVC to MANual
- SENSITIVITY 3 divisions from Maximum

**Adjustment:**

- adjust for maximum DVM reading (-ve), repeat bottom and top several times for maximum reading.
- Bottom ferrite core of T7
- Top adjuster core T7
- Bottom adjuster core T6
- Top adjuster core T6
- Bottom adjuster core T5
- Top adjuster core T5

**Selectivity alignment:**

- Use IF alignment connection and setting.
- Rotate SELECTIVITY knob away from OFF position, as the control rotates clockwise, DVM reading will increase, there will be a point where DVM voltage increases rapidly and this is the point of oscillation. Back off from the oscillation point.
- Loosen the Q-multiplier panel mounting nut (not the Allen set screws on the shaft) such that the stopper rotates freely.

- with the knob still fastened to the shaft adjust the Q-multiplier for maximum DVM reading, adjust SENSITIVITY if necessary to get reasonable DVM reading (<10V).
- Once the maximum location is found, loosen the knob and align knob pointer to centre mark, tighten knob.
- Move stopper to 180deg opposite to long setscrew and tighten panel mounting nut, verify Q-multiplier centre position and stop positions.

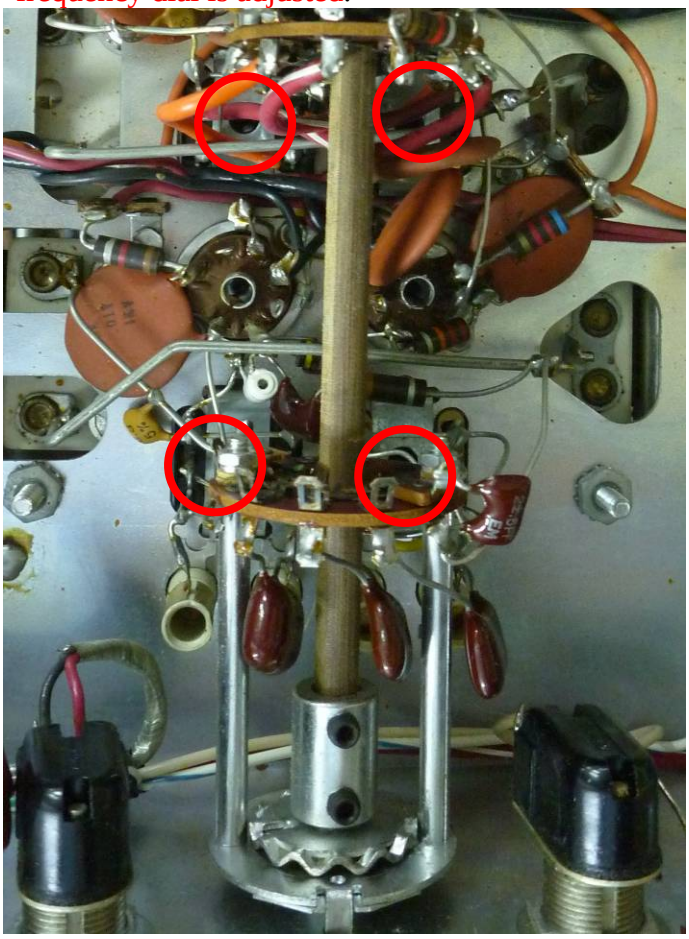
**Tracking and RF alignment, manual page 12 (procedure), 10-11 (drawings)**

**Tools:**

- Non magnetic adjuster, hexagonal, 2.5-2.65mm flat-flat, preferably >75mm length and slender handle.

**Attention:**

- Botton side slugs especially Band 4, 10MHz adjuster slug is extremely difficult to access as it is blocked by the wafer switch.
- Frequency dial transparent plate with marker on it can get loose easily, as a result marker moves as frequency dial is adjusted.



**Instruments:**

- Connect DVM, volt range, to pin 6 of V7A (6BV8, HQ-100A is different from HQ-100, HQ-100 uses 6AL6 as detector diode) and GND
- Connect antenna input to signal generator thru antenna simulator network.

**UUT setting:**

- band spread to 100 (not vertical line)
- Function switch REC (normal receive)
- Noise limiter switch OFF
- Audio gain at minimum
- Selectivity control to OFF (full counter clockwise)
- AVC to MANual
- SENSITIVITY 3 divisions from Maximum

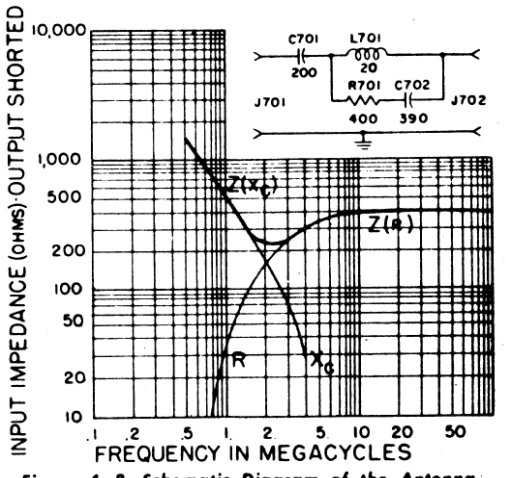
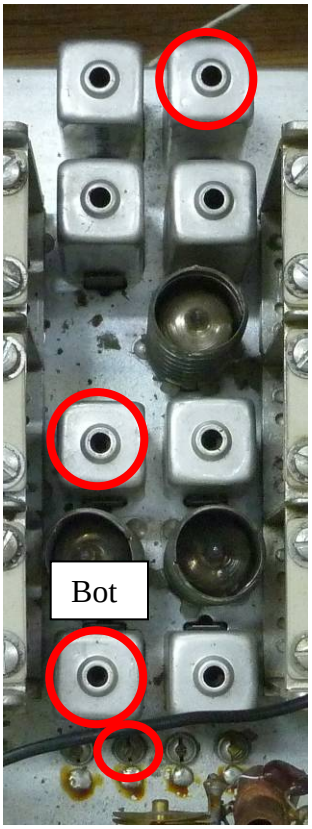
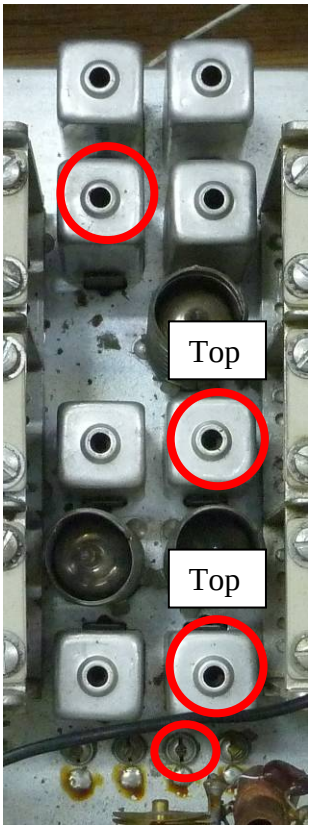
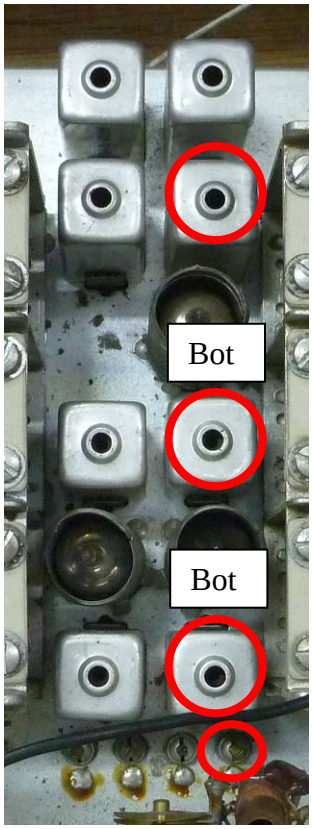
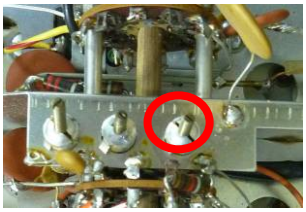
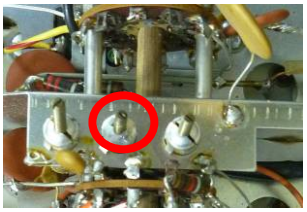
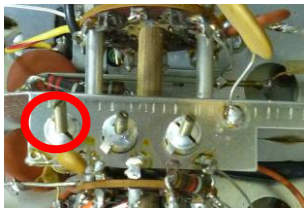



*Figure 4–8. Schematic Diagram of the Antenna Simulator SM-35/URM-25 with Input Impedance Frequency Curve*

Band Freq range Freq Adjust Target Result

| Step | Band | Freq Range | Freq | Dial | Adjust | For result |
|---|---|---|---|---|---|---|
| 1 | 1 | 0.54-1.6 | 0.6 | 0.6 | OSC top slug | peak |
| 2 | | | 1.5 | 1.5 | OSC trimmer | peak |
| | | | | | | Repeat 1-2 for acceptable tracking |
| | | | | | | *** No RF Alignment for Band 1 |
| 3 | | | 0.6 | 0.6 | ANT top slug | peak with Ant capacitor at max |
| 4 | 2 | 1.6-4 | 1.65 | 1.65 | OSC bottom slug | peak |
| | | | | | RF bottom slug | peak |
| | | | | | RF top slug | min |
| 5 | | | 4 | 4 | OSC trimmer | peak |
| | | | | | RF trimmer | peak |
| | | | | | | Repeat 4-5 for acceptable tracking |
| 6 | | | 1.65 | 1.65 | ANT top slug | peak with Ant capacitor at mid |
| 7 | 3 | 4-10 | 4 | 4 | Osc top slug | peak |
| | | | | | RF top slug | peak |
| 8 | | | 10 | 10 | OSC trimmer | peak |
| | | | | | RF trimmer | peak |
| | | | | | | Repeat 7-8 for acceptable tracking |
| 9 | | | 4 | 4 | Ant top slug | peak |
| 10 | 4 | 10-30 | 10 | 10 | OSC bottom slug | Peak |
| | | | | | RF bottom slug | peak |
| 11 | | | 30 | 30 | OSC trimmer | Peak |
| | | | | | RF trimmer | Peak |
| | | | | | | Repeat 10-11 for acceptable tracking |
| 12 | | | 10 | 10 | ANT top slug | peak with Ant capacitor at mid |

Coil and trimmer locations

| Band | | | |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 0.54-1.6 | 1.6-4 | 4-10 | 10-30 |
|  |  |  |  |
| |  |  |  |